WHAT IS CLAIMED IS:

1. A closure device for sealing a percutaneous puncture in the wall of a blood vessel, comprising:

an insertion tool having an actuator which is operable in a first mode in which the actuator is configured for deployment of an inner seal inside the vessel and operable in a second mode in which the actuator is configured for tamping a locking member on an outside of the vessel,

wherein the actuator is arranged to be set into said second mode in response to a pulling force acting on a filament connecting the inner seal and the locking member.

2. The closure device of claim 1, further comprising a housing arranged to be positioned by its distal end for guidance of a seal assembly, the seal assembly comprising:

said inner seal, attached to a distal end of said filament;

said locking member, movably carried on the filament and spaced from the inner seal;

a pusher, guided in the housing, a distal end of the pusher detachably connected to the inner seal; and

a tamping tube, guided in the housing, the filament running through the tamping tube and carrying the locking member and the inner seal outside a distal end of the tamping tube,

wherein the closure device further comprises:

an actuator mechanism controlling the actuator in said first mode to drive the pusher for deployment of the inner seal, whereupon the actuator mechanism is adapted to disable the actuator until a pulling force acting on the filament causes the actuator to be reset into said second mode to drive the tamping tube for tamping the locking member.

3. The closure device of claim 2, further comprising:

a sleeve;

a slider; and

said seal assembly,

wherein the sleeve is telescopically received in the housing, the actuator is telescopically received in the sleeve, the seal assembly is operatively connected to the

slider, and the slider is engaged by the actuator in a first relative position to be moved by the actuator for deployment of the inner seal, and displaceable relative to the actuator into a second relative position wherein the slider is engaged by the actuator to be moved thereby for tamping the locking member.

4. The closure device of claim 3, wherein the slider is displaced from the first relative position to the second relative position in response to a pulling force being applied to the closure device and acting through the filament which is arrested by its distal end being attached to the inner seal and by its proximal end being connected to the slider.

5. The closure device of claim 4, wherein the actuator is temporarily arrested in the sleeve and disabled in the second mode of operation, to be released by action of the slider as the slider is displaced from said first to said second relative position.

6. The closure device of claim 5, further comprising: a cam formed on a distal end of the slider and arranged to disengage a snap lock connection between the actuator and the sleeve; and a compressible spring, acting between the sleeve and the actuator, effective for ejecting the actuator into said second mode.

7. The closure device of claim 6, wherein the closure device is configured so that said pusher is released from the slider in response to the actuator being reset into said second mode.

8. The closure device of claim 7, further comprising a cam-and-hook formed on the actuator and arranged to disengage a snap lock connection between the slider and the pusher, and further to retract the pusher by the displacement of the slider relative to the actuator.

9. The closure device of claim 4, wherein the proximal end of the filament is connected to the slider by a sliding connection having a bar, and captured by a beam formed on the sleeve so as to be released from the slider through relative movement of the beam as the slider moves with the actuator in said second mode.

10. The closure device of claim 1, wherein the insertion tool comprises a housing, the distal end of which is associated with an insertion tube and a forward portion connected thereto, wherein said forward portion of the housing has separate passageways for a seal assembly and for a guiding member, respectively, said passageways converging into the insertion tube, and wherein said seal assembly comprises said inner seal and said locking member.

11. The closure device of claim 10, wherein the housing, the forward portion, and the insertion tube are integrally formed.

12. The closure device of claim 1, further comprising:

a housing;
a sleeve;
said actuator;
a slider; and
a seal assembly,

wherein the sleeve is telescopically received in the housing, the actuator is telescopically received in the sleeve, the seal assembly is operatively connected to the slider, and the slider is engaged by the actuator in a first relative position to be moved by the actuator for deployment of the inner seal, and displaceable relative to the actuator into a second relative position wherein the slider is engaged by the actuator to be moved thereby for tamping the locking member.

13. The closure device of claim 1, further comprising an actuator mechanism configured to control the actuator in said first mode for deploying the inner seal, and configured to disable the actuator after deploying the inner seal until a pulling force acting on the filament causes the actuator to be reset into said second mode for tamping the locking member.

14. The closure device of claim 1, further comprising a pusher, guided in the housing, a distal end of the pusher detachably connected to the inner seal, wherein in said first mode, said pusher is engaged with said actuator, and wherein in said second mode, said pusher is disengaged from said actuator.

15. The closure device of claim 1, wherein said first and second modes are non-overlapping.

16. The closure device of claim 1, wherein the closure device is configured for one-hand operation from said first mode to said second mode.

17. A method for sealing a percutaneous puncture in the wall of a blood vessel, comprising:

providing an insertion tool having an actuator which is operable in a first mode in which the actuator is configured for deployment of an inner seal inside the vessel and operable in a second mode in which the actuator is configured for tamping a locking member on an outside of the vessel, wherein the actuator is arranged to be set into said second mode in response to a pulling force acting on a filament connecting the inner seal and the locking member;

operating said insertion tool in said first mode;

pulling said filament so as to set said actuator in said second mode; and

operating said insertion tool in said second mode.

18. The method of claim 17, wherein the step of operating the insertion tool in said first mode disables operation of the insertion tool in said second mode, until the step of pulling said filament sets the actuator into said second mode.